

(No Model.)

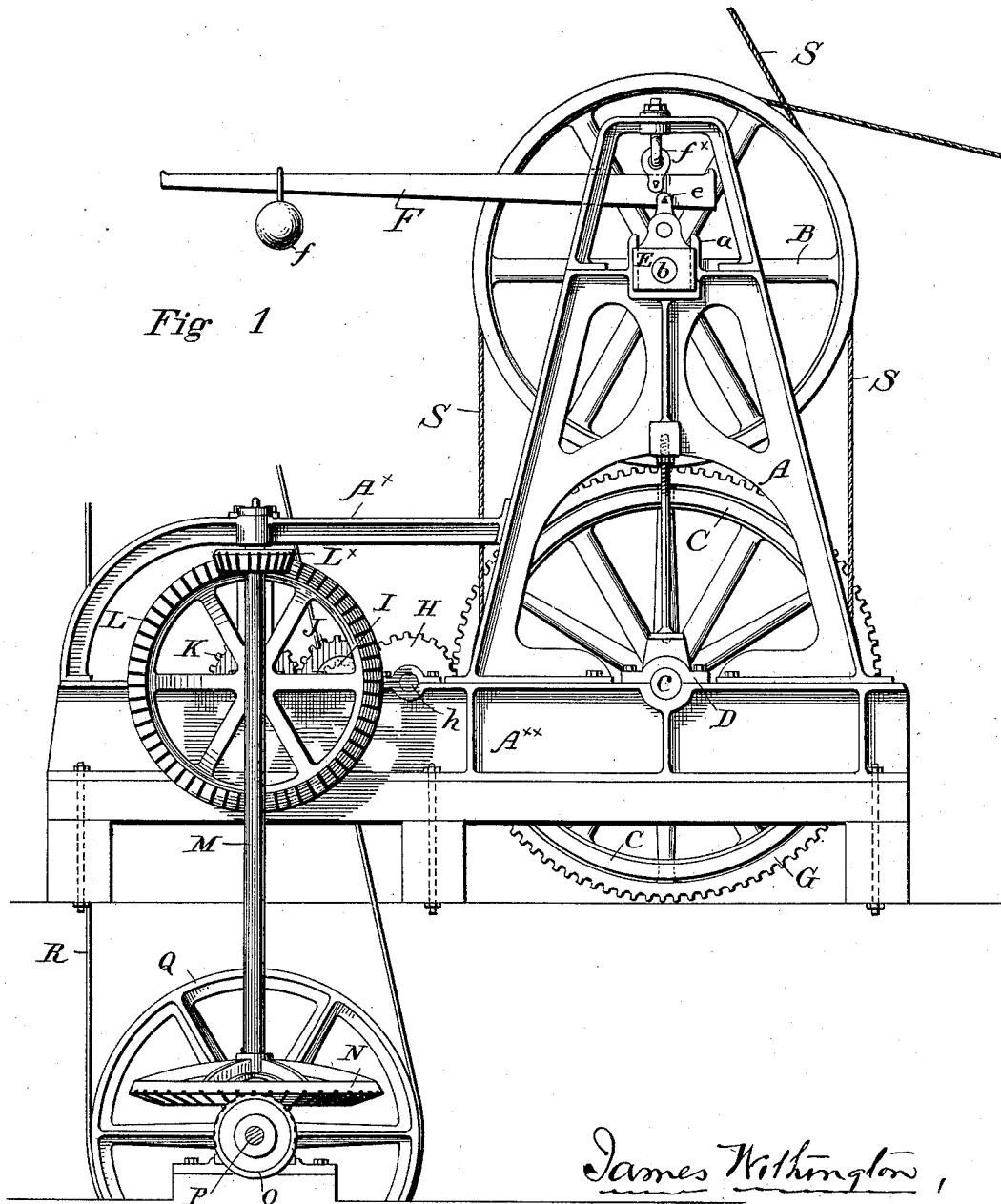
2 Sheets—Sheet 1.

J. WITHINGTON.

DELIVERING AND STRETCHING MECHANISM FOR MACHINES FOR THE
MANUFACTURE OF WIRE ROPE.

No. 383,087.

Patented May 15, 1888.



WITNESSES:

R. B. Shepherd,
J. Norman Dixon.

INVENTOR

By his Attorneys,
W. C. Strawbridge
Bonsae Taylor

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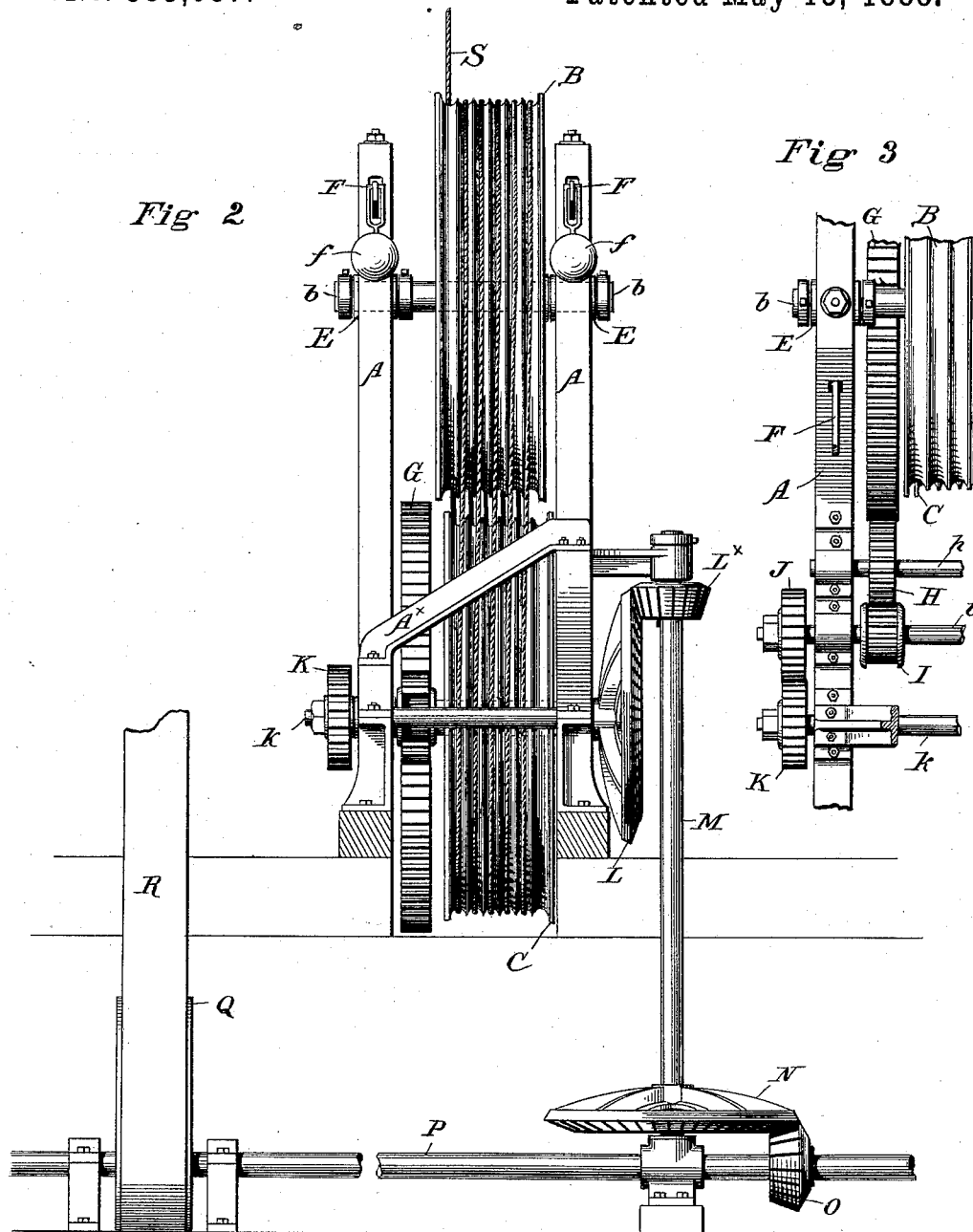
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UNITED STATES PATENT OFFICE.

JAMES WITHINGTON, OF CHAMBERSBURG, ASSIGNOR TO THE TRENTON
IRON COMPANY, OF TRENTON, NEW JERSEY.

DELIVERING AND STRETCHING MECHANISM FOR MACHINES FOR THE MANUFACTURE OF WIRE ROPE.

SPECIFICATION forming part of Letters Patent No. 383,087, dated May 15, 1888.

Application filed January 30, 1888. Serial No. 262,349. (No model.)

To all whom it may concern:

Be it known that I, JAMES WITHINGTON, a citizen of the United States, residing at Chambersburg, in the county of Mercer, and State of New Jersey, have invented certain new and useful Improvements in Delivering and Stretching Mechanism for Machines for the Manufacture of Wire Rope, of which the following is a specification.

My invention relates particularly to and is of especial applicability in connection with machines commonly known as "cable closing machines," and which are employed to close together about a main core the composite wire strands which when closed upon or laid about said core form with it a cable, and its object is the delivery under tension or tensile strain of a wire cable from the closing machine and the consequent stretching or taking of the slack out of said cable.

To such end my invention comprehends machinery of the character represented in the accompanying drawings and hereinafter described.

In the drawings, Figure 1 represents in side elevation a machine embodying my invention. Fig. 2 is an end elevation of the said machine viewed from the left hand side of Fig. 1. Fig. 3 is a fragmentary plan of a portion of the housing and of a portion of the train of gearing employed for driving the lower tension drum.

Similar letters of reference indicate corresponding parts.

In the drawings, A A are a pair of parallel, vertically erected, standing frames, A^{*} an extension thereof which, with the frames, may be said to constitute the housing of the machine, and A^{**} the bed frame of the machine. Between the standing frames are mounted the groove faced unwinding tension drums to which the cable S after it has been formed in the closing machine is led, about which it is wrapped and coiled, by which it is put under tension, strained, or stretched, and from which it is led to the winding drum or bobbin upon which it is ultimately wound. These two drums are preferably disposed in approximate tangency, that is to say so as to almost touch each other, the one above the other with their shafts parallel and in the same vertical plane.

I designate the upper drum B, the lower drum C, the shaft or axle of the upper drum *b*, and the shaft or axle of the lower drum *c*. The shaft *c* of the lower drum is housed in fixed journal boxes D secured to the side frames or housing of the drums. The shaft *b* of the upper drum is journaled in vertically adjustable or sliding boxes E adapted to ways *a* formed at the side frames, and each of the said adjustable boxes is pivotally connected as at *e*, with a straining lever F provided with a counter weight *f* and suspended by a suitable pivotal connection *f*^{*} from the upper portions of the standing frames. A reference to Fig. 1 of the drawings will make plain in what manner this application of the straining levers causes the adjustable boxes and consequently the upper tension drum to be constantly raised to an extent and with a tension controllable at will by the size and adjustment of the counter-weights.

Each of the tension drums is grooved on its periphery, each drum being circumscribed by a series of grooves, for instance six in number. The cable led to my machine is passed directly from the upper to the lower drum, and from the lower back to the upper, being wrapped around both drums, preferably, as many times as there are grooves in each.

It is apparent that the tension exerted by the straining levers upon the upper tension drum will serve, the upper drum being constantly strained away from its neighbor, to stretch or impart a predetermined tensile strain to the cable. The straining levers and their counterweights which I illustrate, are simply a type of many convenient devices by which tension may be exerted upon the upper tension drum to draw it away from the lower drum. The shaft *c* of the lower tension drum is equipped with a drum spur wheel G, which is engaged with an idler pinion H on an idle shaft *h* supported in the bed frame A^{**} of the machine. The idler pinion H is engaged with a driving toothed pinion I fixed upon a pinion shaft *i* which is also equipped with a counter pinion J engaged with a sister pinion K, upon one extremity of a counter shaft *k*, upon the opposite extremity of which is fixed a beveled spur wheel L engaged with and driven by a bevel pinion L^{*} upon the upper extremity of a vertical shaft M upon the lower extremity of

which is a horizontal beveled spur wheel N engaged with a bevel pinion O upon a driving shaft P, motion to which latter is imparted by a pulley Q driven by a belt R.

5 The foregoing is simply one of many convenient trains of power gearing which can be employed to transmit to the toothed spur wheel G upon the shaft of the lower tension drum, and consequently to the lower tension
10 drum and, through the frictional grip of the wound cable, to the upper tension drum, also, a motion of powerful but regulated rotation.

The train of gearing represented and described is a convenient one, but it is not *per se*
15 a part of the invention, the gist of which resides in a pair of tension drums, one of which is positively driven while the other is positively strained apart from the driven drum, against the resistance of a cable wrapped
20 around both.

Having thus described my invention, I claim and desire to secure by Letters Patent:—

1. The combination, of a tension drum rotatable in fixed bearings, fixed bearings for
25 said drum, a tension drum rotatable in adjustable bearings, adjustable bearings for

said drum, driving mechanism for positively driving the first named drum, and straining levers applied to and operative in connection with the adjustable bearings of the last named
30 drum for adjusting its position, substantially as and for the purpose set forth.

2. The combination, of a pair of drums each peripherally circumscribed by grooves and mounted with axes parallel in approximate
35 tangency, a fixed shaft for carrying one of said drums, gearing applied to said shaft for rotating said drum, an adjustable shaft applied to the other of said drums and susceptible of movement radially toward or from the shaft
40 of the first named drum, adjustable boxings applied to the adjustable shaft, and straining levers applied to and operative in connection with the boxings of the adjustable shaft for
45 adjusting it, substantially as set forth.

In testimony that I claim the foregoing as my invention I have hereunto signed my name this 16th day of January, A. D. 1888.

JAS. WITHINGTON.

In presence of—

WM. HEWITT,

JOS. H. WRIGHT.